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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Travers et al
Title: DISH DRAINER AND TRAY
SYSTEM WITH COMPACT
STORAGE OF THE TRAY
Appl. No.: Not Yet Assigned
Filing Date: Unknown
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Art Unit: Unknown

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UTILITY PATENT APPLICATION
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Sir:

Transmitted herewith for filing under 37 C.F.R. § 1.53(b) is the nonprovisional utility patent application of:

John Travers
Vince Haley
Sean Michael O'Brien
Christopher Gilbert

Enclosed are:

- ☒ [X] Specification, Claim(s), and Abstract (12 pages).
- ☒ [X] Informal drawings (5 sheets, Figures 1-5).
- ☐ [] Declaration and Power of Attorney (___ pages).
- ☐ [] Assignment of the invention to RUBBERMAID INCORPORATED.
- ☐ [] Assignment Recordation Cover Sheet.
- ☐ [] Check in the amount of \$40.00 for Assignment recordation.
- ☐ [] Small Entity statement.
- ☒ [X] Information Disclosure Statement.

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☒ Form PTO-1449 with copies of 9 listed reference(s).

The filing fee is calculated below:

	Claims as Filed	Included in Basic Fee	Extra Claims	Rate	Fee Totals
Basic Fee				\$690.00	\$690.00
Total Claims:	17	- 20	= 0	x \$18.00	= \$0.00
Independents:	2	- 3	= 0	x \$78.00	= \$0.00
If any Multiple Dependent Claim(s) present:			+	\$260.00	= \$0.00
				SUBTOTAL:	= \$690.00
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- ☐ A check in the amount of \$690.00 to cover the filing fee is enclosed.
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Please direct all correspondence to the undersigned attorney or agent at the address indicated below.

Respectfully submitted,

Date

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U.S. PATENT APPLICATION

for

**DISH DRAINER AND TRAY SYSTEM WITH COMPACT STORAGE OF
THE TRAY**

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DISH DRAINER AND TRAY SYSTEM WITH COMPACT STORAGE OF THE TRAY

Cross-Reference to Related Applications, if any: NONE

BACKGROUND OF THE INVENTION

Field of the Invention

5 The present invention relates generally to the field of kitchen accessories and more particularly to dish drainers and trays. In its most specific embodiments, the present invention relates to a dish drainer – tray system, the tray being constructed and arranged to be compacted into a size to fit within the drainer for packaging, shipment, in-store display and for storage by the end user.

10 Description of the Prior Art

Many different types of dish drainer and tray systems are know in the art. Some include the capability of folding to reduce storage space requirements. For example, folding dish drainers are disclosed in U.S. Patent No. 3,800,957 issued April 2, 1974 to Krause for
15 “Combination Dish Rack and Tray” and U.S. Patent No. 3,025,967 issued March 20, 1962 to Christophersen and entitled “Dish Drying Rack”. Folding dish drainers which include a drain board include U.S. Patent No. 2,443,404 issued June 15, 1948 to Tallarico for “Drain Board for Dishes” and U.S. Patent No. 1,835,232 issued December 8, 1931 to Lord for
20 “Dish Drainer”.

Dish trays themselves are also well known and may be used without dish draining racks. This is generally considered to be preferable to simply drying dishes or other kitchenware on a dish towel, as is

common practice in many households. Trays are shown in U.S. Patent No. D365,182 issued December 12, 1995 to Zehring for "Dish Drain Tray", U.S. Patent No. 5,105,485 issued April 21, 1992 to Sciabarassi for "Drain Board", and U.S. Patent No. 1,522,921 issued January 13, 1925 to Smiley for "Dish Mat". The latter includes a coupling between individual mat portions to allow them to fold.

A folding dish rack is also shown in U.S. Patent No. 1,714,629 issued May 28, 1929 to Rodin for "Folding Dish Rack". This device includes a framework and several pivotal elements which may be elevated from horizontal to vertical positions depending on the desired use.

Finally, a dish draining system is disclosed in U.S. Patent No. 4,169,638 issued October 2, 1979 to Cirasuolo et al. for "Drainboard - Extend-A-Drain". In this device, the tray may be stored within a housing and be extended over the sink when in use, as best appreciated from FIGURES 7 and 8 of this patent.

While the above-referenced patents show a variety of prior attempts to reduce storage space requirements for certain dish draining equipment, the systems are not applicable to tough, durable, plastic dish drainer and tray sets, which employ a tray that has a footprint larger than that of the base of the drainer. Such combinations are frequently sold as sets, and for packaging and sale, it is necessary to package the combination in a container, such as a folding carton or corrugated package, which accommodate the component having the largest dimensions, i.e. the tray. Accordingly, a considerable amount of wasted cube results, leading to logistical problems. For example, fewer packages can be transported on a pallet or in a truck, and fewer products can be displayed in a given space on a store shelf.

Consumers are also faced with the need to store both the tray and drainer, since typically these devices are placed on a counter

adjacent a sink only after meal times and are left out until the items placed in the drainer have dried completely. Once again, the footprint of the tray typically dictates the storage space required for the set, or the individual components can be separately stored horizontally or vertically in the most convenient location in the users kitchen.

A dish drainer and tray system which could be packaged, shipped and displayed for sale in less space and which could be stored by the consumer in less space, while maintaining the desirable features of toughness and durability, would be a significant advance in this art.

FEATURES AND SUMMARY OF THE INVENTION

The present invention features a combination dish drainer and tray system in which the tray has a footprint sufficiently large to accommodate the drainer in a first configuration and may be compacted to a second configuration for storage within the drainer itself.

Another feature of the present invention is to provide a dish drainer and tray system in which a tough, durable drainer may be employed with a foldable or rollable tray to reduce the space required to package, ship, display, and store the two components.

A different feature of the present invention is to provide a dish drainer tray which may be folded using live hinges to a sufficiently small size to allow it to fit within a dish drainer.

A still further feature of the present invention is to provide a dish drainer tray which may be rolled and secured in the rolled position.

A different feature of the present invention is to provide a silverware container which may be releasable attached to a dish drainer tray which may be compacted by rolling or folding so that the dish drainer can accommodate both the tray and the silverware container.

How these and other features of the present invention, either singly or in any combination, are accomplished will become apparent in

the following detailed description of the preferred embodiments, taken in conjunction with the FIGURES. Generally, however, they are provided in a system which includes a dish drainer which may have any desired shape and structure to receive kitchenware, dishes, glasses and the like for drying and which has a base. The system further includes a tray which has a footprint which exceeds the base of the dish drainer and is adapted to receive water from articles placed in the drainer and to guide it toward a sink. In the present invention, the tray may be compacted, such as by rolling or folding, to a configuration to allow it to fit within the drainer. In the preferred embodiments disclosed below, folding is preferentially accomplished using live hinges, while rolling is preferentially accomplished by rolling a flexible tray and self-locking it in the rolled-up position for easy storage within the drainer. In a particularly preferred embodiment, a detachable silverware container is provided and may be coupled to the tray when in use and may be detached therefrom for storage within the drainer. Other ways in which the above-mentioned and other features of the invention are accomplished, will become apparent to those skilled in the art after they have read this specification. All such ways are deemed to fall within the scope of the present invention, if they fall within the scope of the claims which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of a dish drainer and tray according to one preferred embodiment of the present invention;

FIGURE 2 is a perspective view of the tray shown in FIGURE 1, with the tray in its deployed or use configuration;

FIGURE 3 is a perspective view of the drainer and tray of FIGURE 1, with the tray in its storage configuration and a package surrounding the set and shown in phantom;

FIGURE 4 is a perspective view of a different tray and a detachable silverware container; and

FIGURE 5 is a perspective view of the tray and container of FIGURE 4, with the tray in its storage configuration and both within the
5 drainer of FIGURE 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Before proceeding to the detailed description of the preferred embodiment, several general comments can be made about the applicability and the scope of the present invention. First, the particular
10 shape and functionality of the dish drainer is not a limiting feature of the invention, and any known dish drainer can be employed. In its most preferred embodiments, the dish drainer itself is an integral molding made from a synthetic resin and has a generally rectangular profile. However, other materials may be used and the shape may vary both as to size and
15 geometric configuration. Preferably, the drainer has feet, ramps or other structural components to space the bottom of the drainer above the tray with which it will be used, to allow items placed within the drainer to drip onto the tray.

Second, the size and structural features of the tray can also
20 vary widely, it being necessary only that the tray have a footprint which is larger than the bottom of the drainer with which it will be used. The tray preferably is inclined so that it can empty into a sink and may have various decorative features (for example ribs) or other structural or aesthetic components. The tray also will typically have some type of rim
25 around its outer periphery to keep water collected by the tray flowing toward the sink rather than spilling onto the counter or floor.

Third, the materials used to construct the tray are also preferably synthetic resins. For one embodiment, it is necessary that the tray be made from a material which may be rolled up easily, while in the

other illustrated embodiment, where live hinges are used, a more rigid tray material may be employed. However, it should be appreciated that the folding embodiment may employ construction materials which are rigid or flexible.

5 Fourth, the detachable silverware component which is shown in FIGURE 4 coupled to the rollable tray could also be used with the folding tray design without departing from the intended scope of the invention. Moreover, either tray may be used without any auxiliary components, such as the silverware container.

10 Fifth, the particular number of rolls to attain a compacted size, or the number of folds used with a foldable tray, can vary from those shown in the illustrated embodiments.

Finally, the foldable and rollable trays disclosed and claimed herein may be used without a separate drainer, for example where only a few items may require drying or where the geometry of the washed item does not easily fit within the drainer. The reduced sized storage benefits for the tray itself are deemed to be a separate feature of the present invention.

Proceeding now to a description of the detailed
20 embodiments, FIGURE I shows an illustrative dish drainer 10 to be generally rectangular or square in horizontal cross section. A plurality of ribs 12 are provided and extend upwardly from the bottom of drainer 10 and serve to hold plates, bowls or other kitchenware in a vertical orientation within the drainer. A plurality of apertures 14 are provided
25 about the perimeter of drainer 10, each having an internal flap 16, over which a glass can be placed. The illustrated drainer of the first embodiment also includes a pair of compartments 18 and 19 which could be used for cooking utensils, silverware and the like. Drainer 10 includes a slotted or perforate base so that items placed in the drainer 10 may drip
30 through the drainer onto the tray soon to be described. In the illustration

of FIGURE 1, four elongated ramps 22 extend from the forward portion of the drainer toward the rear portion thereof to suspend the bottom of the drainer above the surface upon which it will be placed. This ensures that items placed in the drainer are free to release water droplets onto a lower
5 surface than the bottom of drainer 10.

As mentioned previously, this drainer 10 is for purposes of illustration and should not be taken as limiting. However, it serves well to illustrate the features of the invention which will become apparent as the description of the preferred embodiments continues.

10 FIGURE 1 also shows a tray 30 suitable for use with drainer 10. Tray 30 has a footprint which is larger than the base of drainer 10 and includes raised side edges 31 and 32 and a raised rear edge 33 to contain water falling onto the tray from drainer 10. The tray 30 is inclined to direct water toward a front edge 34. Tray 10 also includes a
15 live hinge 35 extending from the forward edge 34 to the rear edge 33. The hinges allow tray 30 to be folded into a compact size for storage within drainer 10. The tray is illustrated in FIGURE 2 in its deployed position without drainer 10, and FIGURE 3 shows a combination of the tray 30 folded about the hinge 35 and located within drainer 10. Ribs 42
20 which are not visible in FIGURES 1 or 2 are shown in FIGURE 3 and the extend from front edge 34 to rear edge 33 to incline the tray 30 for discharging its contents into a sink or other receptacle. A package 45 is shown in phantom in FIGURE 3 and can be any suitable shipping and/or display package, including folding carton, corrugated or plastic film
25 packages or combinations thereof.

A second embodiment of the invention is shown in FIGURE 4 where a roll-up dish drainer tray 50 is illustrated. It is generally flat with a plurality of longitudinal ribs 52 on its upper surface and a raised rim 53 surrounding the upper surface 51. This tray 50 is also inclined toward the
30 left as shown in this prospective view, so that the contents of the tray

may empty into the sink 60 partially illustrated here. Also shown in
 FIGURE 4 is a selectively detachable silverware compartment 62 having
 chambers 63 into which silverware can be placed and a flange 64
 extending along one edge. The flange includes a plurality of pegs holes
 5 65 which are arranged and constructed to receive pegs 66 extending
 upwardly from the forward edge 68 of tray 50. The tray functions to
 discharge water from either the silverware compartment or the tray
 surface into the sink 60. Once detached, silverware compartment 62
 allows tray 50 to be rolled for storage. Furthermore, the pegs 66 are
 10 arranged and adapted to enter lock holes 70 located along the underside
 of tray 50 as shown in phantom in figure 4. When the rear edge 72 of
 tray 50 is rolled toward edge 68 (the rolling taking place by turning edge
 72 underneath the upper surface 51 of tray 50 and continuing the holes
 70 of the tray 50 are aligned with the pegs 66 to permit locking the tray
 15 in its rolled position.

FIGURE 5 illustrates how both the rolled tray 50 and the
 silverware compartment 62 can fit within the drainer 10 shown in
 FIGURES 1 and 3. For emphasis, it can again be pointed out the drainer is
 shown for illustrative purposes only, and that when using a separate
 20 silverware container, the drainer may not require separate compartments
 such as those illustrated by reference numbers 18 and 19 in FIGURE 1.

Other ways may be used to hold a rolled tray in a rolled
 configuration, such as the use of straps, Velcro® closure materials and the
 like, but it is believed that the peg and hole technique is advantageous
 25 from a cost molding, manufacturing and sanitation standpoints.

While the present invention has been described in connection
 with two different embodiments, the invention is not to be limited thereby
 but is to be limited solely by the scope of the claims which follow.

WHAT IS CLAIMED IS:

- 1 1. A dish drainer and tray set comprising:
2 a dish drainer having an interior and a base;
3 a tray having a footprint larger then the base of the drainer
4 when the tray is in a first deployed configuration; and
5 the tray being compacted to a size sufficiently small to allow
6 it to fit entirely within the interior of the drainer when the tray is in a
7 second storage configuration.
- 1 2. The set of claim 1 wherein the tray is made from a synthetic
2 resin.
- 1 3. The set of claim 1 wherein the tray includes at least one
2 hinge, and where the tray is folded about the hinge when the tray is
3 converted from its deployed to its storage configuration.
- 1 4. The set of claim 3 wherein the tray is made from a synthetic
2 resin and each hinge is a live hinge.
- 1 5. The set of claim 1 wherein the tray is flexible and is rolled up
2 to convert it from its deployed to its storage configuration.
- 1 6. The set of claim 5 wherein the tray is made from a synthetic
2 resin.
- 1 7. The set of claim 5 wherein the tray includes a lock for
2 maintaining the tray in its storage configuration.
- 1 8. The set of claim 7 wherein the tray has an upper surface and
2 a lower surface and the lock comprises a plurality of pegs on one of the
3 surfaces and a plurality of holes on the other of the surfaces located so

4 that the pegs and holes are aligned when the tray is in its storage position
5 and the pegs are inserted into the holes.

1 9. The set of claim 1 further comprising a silverware
2 compartment which is readily detachable from or attachable to the tray.

1 10. The set of claim 9 wherein the compartment includes first
2 locking components and the tray includes second locking components,
3 the first and second locking components being locked together when the
4 compartment is attached to the tray.

1 11. The set of claim 10 wherein one of the first and second
2 locking components is a plurality of pegs and the other of the first and
3 second locking components is a plurality of holes sized to receive the
4 pegs.

1 12. The set of claim 9 wherein the silverware compartment is
2 sized to fit entirely within the drainer interior with the tray in its storage
3 configuration.

1 13. A combination dish drainer, tray set and package comprising
2 of;

3 a dish drainer having a bottom, walls and an open top
4 together defining a drainer interior;

5 a tray having a first compacted storage configuration and a
6 second deployed configuration, the tray fitting entirely within the drainer
7 interior when in its storage configuration and having a footprint greater
8 than the bottom of the drainer when in its deployed configuration, the
9 tray being in its storage configuration; and

10 a package sized to contain the drainer, the package being too
11 small to contain this tray in its deployed configuration.

1 14. The set and package of claim 13 wherein the package is
2 selected from this group consisting of corrugated, folding carton, or
3 plastic film packages or packages made from combinations thereof.

1 15. The set and package of claim 13 wherein the tray is folded in
2 its storage configuration.

1 16. The set and package of claim 13 wherein the tray is rolled in
2 its storage configuration.

1 17. The set and package of claim 13 further including a
2 silverware compartment selectively attachable to and detachable from the
3 tray when the tray is in its deployed configuration, the compartment also
4 placed within the drainer interior.

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ABSTRACT OF THE DISCLOSURE

A dish drainer and tray system is disclosed which provides reduced space requirements for packaging, shipping, display and storage. The tray may be compacted into storage size which allows it to fit in the drainer, thereby allowing the drainer rather than the combination to
5 determine the space requirements. In one embodiment, the tray folds about one or more live hinges, and in a second embodiment the tray rolls and includes a closure to maintain it in the rolled position. A particularly preferred present invention also includes a detachable silverware
10 compartment that drains directly into the sink and which can be stored with the tray in the drainer.

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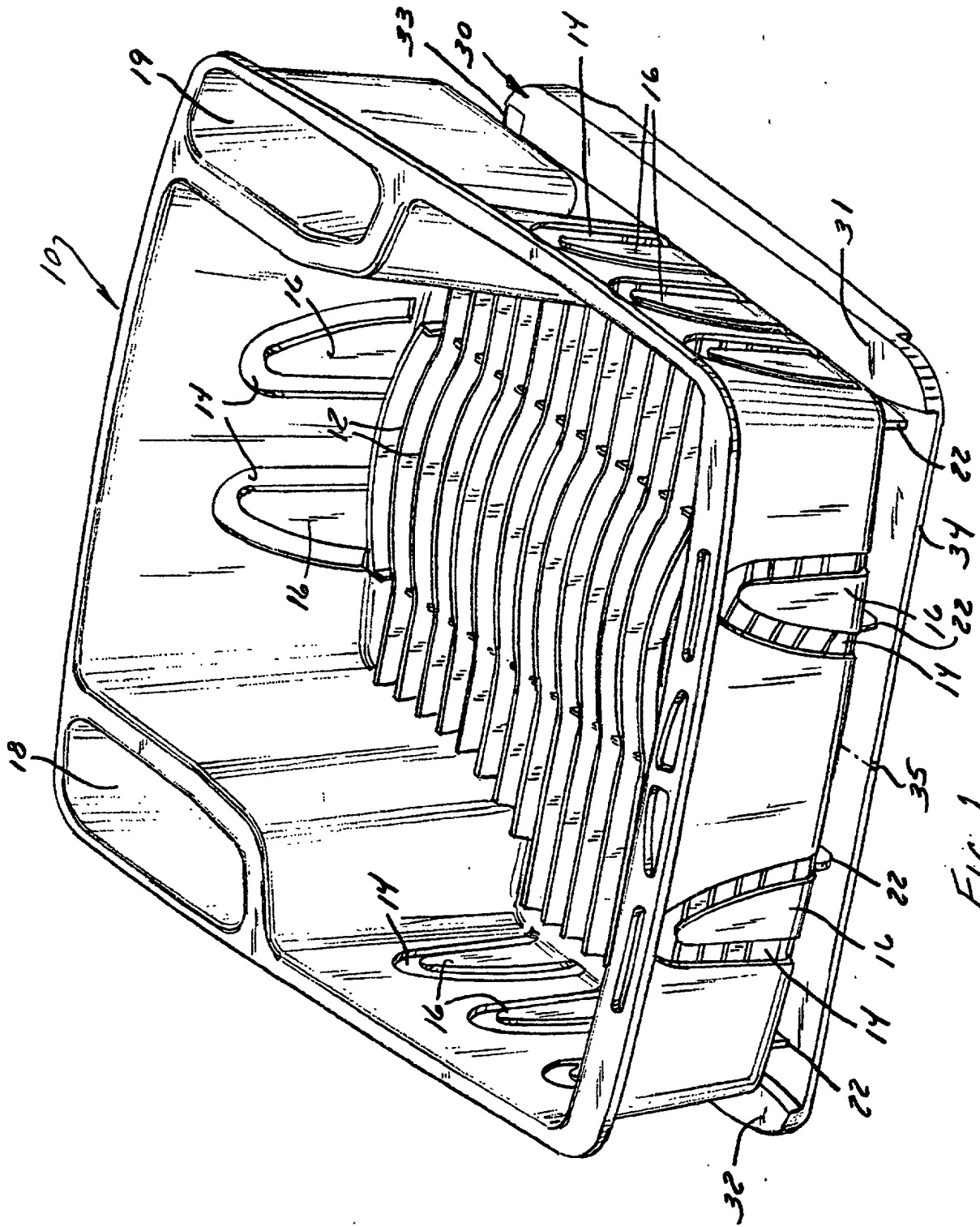


FIG. 1

	Temperature
1.0% TGA/100°C	100
1.0% TGA/200°C	200
1.0% TGA/300°C	300
1.0% TGA/400°C	400
1.0% TGA/500°C	500
1.0% TGA/600°C	600
1.0% TGA/700°C	700
1.0% TGA/800°C	800
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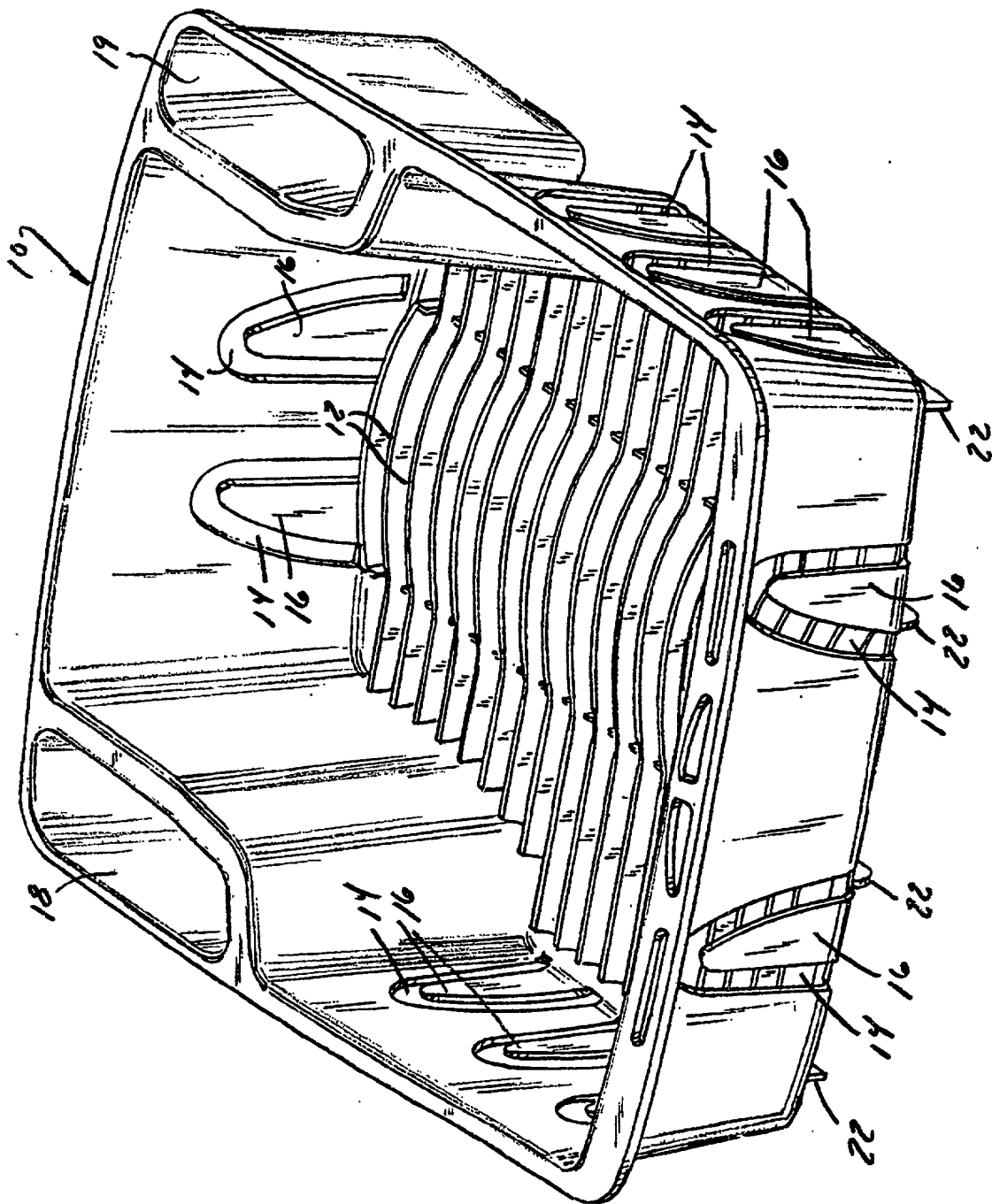


Fig. 2

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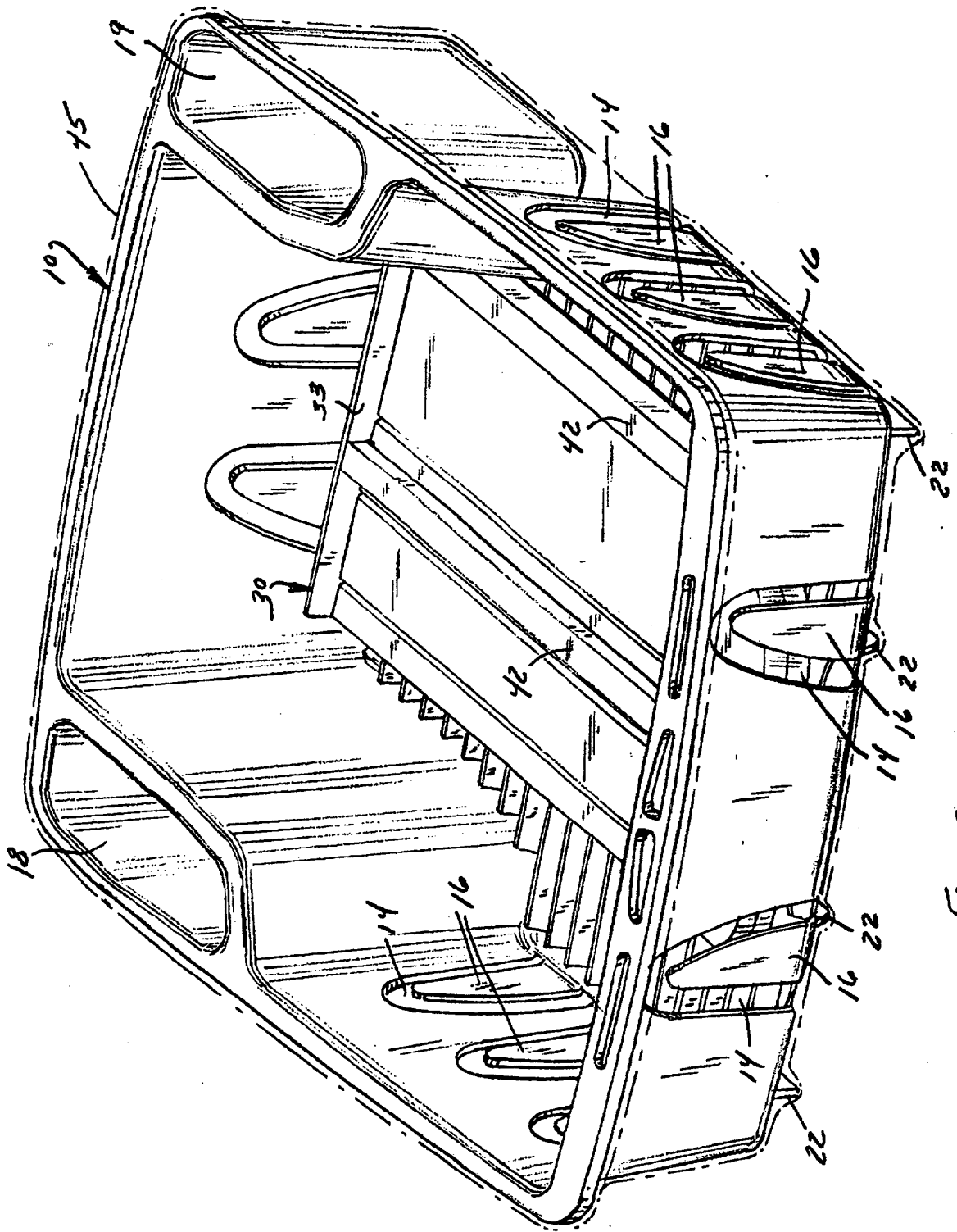


FIG. 3

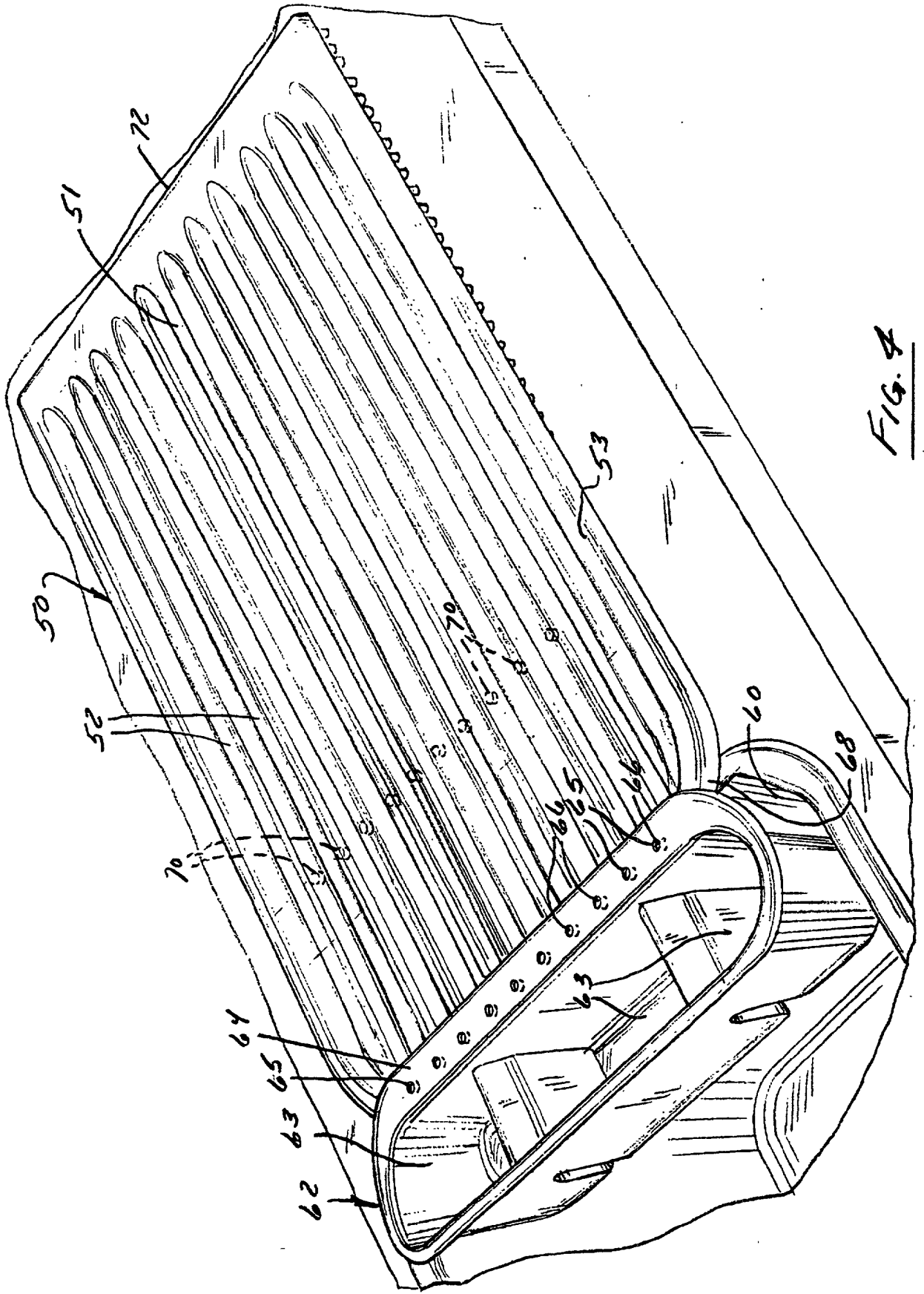


FIG. 4

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Fig. 5